										1	
Work Orde Monday, Decemb				*94	4945*			Sh	J 4	and	Page 1
Revision ID:	D3166-1 Basket Hoop			Accept	*N900	040	100	)*	-	art *\	IS1*
Start Date: Required Date: Reference:	12/31/2012 1/11/2013	Start Qty: 2.00 Req'd Qty: 2.00	*2* *2*		Cust Item Customer:						IS2*
Approvals:	Process Plan	n: MF	Date:   2 - 12 - 3			ate:	- 			art *N	IR1* IR2*
Sequence ID/ Work Center ID		Operation Description	· · · · · · · · · · · · · · · · · ·	Set Up/ Run Hou	Tool ID	Tool #	Plan Code	Accept Qty	t Reject Qty	Reject Number	Insp.
Draw Nbr		sion Nbr			13	· · · · · · · · · · · · · · · · · · ·		Qiy	Qıy	Number	Stamp
D3166	Rev	A1	<u>;</u>	: :							
*1 \\ \tage \text{Fab} \\ \tage \text{Fab}		Skidtubes  Memo Cut 3/4" x 3/	4" square tubing 60.00"	0.00 0.00 long.	PP (13.1.8	···		,2			
*110 *110* CNC Bend 1 CNC Delta 100 Bende	er	BENDING MACHINE -:  Memo Form D3166 BASB, and fo	-1 Basket Hoop as per D	0.00 0.00 Dwg D3166 using Be	nding program 350			ລ		AD	13~01~18
120 *120* QC Quality Control		QC6- Inspect dimensions  Memo  Inspect Baske	to drawing et Hoop dimensions with	0.00 0.00 t template D3166-1-1	P(13.1.	// <sub>i</sub>	(	2		· .	

											DQA:	Dat	te:	•
NCR:	es /	No				WORK ORDER NON-C	100	<b>NFORM</b>	MANCE / UPDATE					•
											QA Closed:	Dat	te:	
Work Orde	ar.					DISPOSITION			AGAINST	DE	PARTMENT	/PROCESS		
Part N	 No					Rework Scrap Use-as-is Work Order Update		f Therm	Skid-tube Crosstube Wachining Small Fab noforming Finishing Large Fab Composite	E	4	Water Jet d. Eng. Coor. e/Packaging Supplier		Engineering Quality Other
. IVCN I	•0			<u> </u>	<del></del> -	Work Order opdate	j		composite		j	Supplier		
Root					Descri	ption of work order update		Initial	Action		Sign &			
Cause		Date	Step	Qty	c	or Non-conformance	Ch	nief Eng	Description		Date	Verification	n_	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved														
					•	F	AUI	T CATE	GORY					
Landi	ng Gea	ar				General		-		_	,		_	-
	L B€	ending				Bend		Grain		L	Ovalized		$ldsymbol{f eta}$	Pressure/Forced
	Ce	entre No	t Concer	ntric to (	o/s	BOM/Route	$\perp$	Hardwa	re		Over/Under	tolerance	$\vdash$	Temperature/Cure
		acks			<u> </u>	Broken/Damaged		4	on Incomplete	<u></u>	Part Incorre		L	Weld
	_		Crimped.		<u> </u>	Burrs	_	4	ions Incomplete/Unclear	L	Part Lost/M	issing		Wrong Stock Pulled
		ıffs			<u> </u>	Contamination		Mainte	•		Part Moved			
		eat Trea	-		<u> </u>	Countersink	_	Mislabe			Positioned V	•	_	7
	In	spection	Strip in	Tube	. [	Cut Too Short		Misread	1	L	Power Loss/	Surge	$ldsymbol{f L}$	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

\*94945\*

Page 2

Monday, December 31, 2012 9:10:44 AM Item 1D: D3166-1 Accept \*N900040100\* Setup Start **Revision ID:** Item Name: Basket Hoop Stop **Start Date:** 12/31/2012 Start Qty: 2.00 **Cust Item ID:** Required Date: 1/11/2013 Req'd Qty: 2.00 **Customer:** Reference: Run Process Plan: Approvals: Date: Tooling: Date: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool # Plan Tool ID Reject Reject Accept Insp. Work Center ID Description **Run Hours** Code Qty Qty Number Stamp 130 Identify as per dwg & Stock Location: W 0.00 113.1.8 \*130\* Packaging 0.00 Memo Packaging 140 QC21- Final Inspection - Work Order Release 0.00 \*140\* QC 0.00 Memo Quality Control

												DQA:	Date:	
NCR:	Yes	/ No					WORK ORDER NON-C	O	NFOR	MANCE / UP	DATE	·		*
												QA Closed:	Date:	
Vork Ord	er:						DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
Part I							Rework Scrap Use-as-is		1	Skid-tube Machining Moforming	Crosstube Small Fab Finishing	ł	Water Jet d. Eng. Coor. e/Packaging	Engineering Quality Other
NCR I	NCR No.						Work Order Update			Large Fab Composite			Supplier	Other
Root							tion of work order update	1	nitial	Act	tion	Sign &		
Cause		Date	Step	Qty		o	r Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
oc/Data quip/Tooling perator laterial etup ther rocess upplier raining														
								AUL	T CATE	GORY				
Landi	ng (	Gear					General						<u> </u>	
	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped. Cuffs Heat Treat Inspection Strip in Tube					Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short		Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance Mislabeled Misread			Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V Power Loss/	ssing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other	
	$\vdash$	Ripples in			. }	_	Drill Holes	_	Offset Out of Calibration					
		Torque W Turning So		xtrusioi	' }	-	Drawing Finish	H		Ealibration Sequence				

Outside Dimensions

Wave/Twist in Tube

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

## **Picklist Print**

Monday, December 31, 2012 9:10:44 AM

Work Order ID:

94945

Parent Item:

D3166-1

Parent Item Name:

Basket Hoop

**Start Date:** 12/31/2012

Required Date: 1/11/2013

Start Qty: 2.00

Required Qty: 2.00

Comments:

IPP A02.08.23New issueKJ

IPP: B 08.12.05 Updated bending program on step 3 per NCR W/O43165 KJ Verified by: EC IPP Rev: C 09-01-23 as per DEO D3166-A2 DD verified by: EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
<b>M304TS0.750W.065</b> 304 SQ Tube .75x.75x.065	5W	Purchased	No			100	f	2,404.2164	5	10.526316	Ca	/3:1	'.S
				<b>Location</b>		Loc Qty	Lo	c Code					
				MAT017		1448.153597							
					2468	448.153597							
					4069	1000				<del></del>			
				WA006	2051	956.0628							
				12.		41 874,0628				052			
				763		41				<u> </u>			

												DQA:	Date:	*
NCR:	Yes	/ No					WORK ORDER NON-C	O	NFORM	AANCE / UPD	ATE	•		`
												QA Closed:	Date:	
Vork Ord	er:						DISPOSITION				AGAINST DE	PARTMENT/	PROCESS	
Part I	Part No						Rework Scrap Use-as-is Work Order Update		Thern	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. e/Packaging Supplier	Engineering Quality Other
Root					Desc	rip	otion of work order update		nitial	Actio	n	Sign &		
Cause		Date	Step	Qty		o	r Non-conformance	Ch	ief Eng	Descrip	otion	Date	Verification	QC Inspector
oc/Data quip/Tooling perator faterial etup ther rocess upplier raining napproved														
							FA	AUL	T CATE	GORY				
Landi		1			r		General		1		_	7		۱
		Bending Centre No Cracks	ot Concer	ntric to (	o/s		Bend BOM/Route Broken/Damaged		Grain Hardware Inspection Incomplete			Ovalized Over/Under tolerance Part Incorrect		Pressure/Forced Temperature/Cure Weld
		Crushed/0	Crimned		ŀ		Burrs		1 '	ions Incomplete/Un	nclear	Part Lost/Mi	<u> </u>	Wrong Stock Pulled
		Cuffs	cimpeu.		ŀ		Contamination	-	Mainte	•		Part Moved	~~····b L	Two up a stock i and
	<del> </del>	Heat Trea	t		}		Countersink		Mislabe		<u> </u>	Positioned V	Vrong	
		Inspection		Tube	ł		Cut Too Short		Misread			Power Loss/Surge		Other
	-	Ripples in			Ì		Drill Holes		Offset		L		<u> </u>	
		Torque W		xtrusio	, t		Drawing	$\vdash$	Out of Calibration					,
	Г	Turning So			ļ		Finish		Out of S	equence				

Outside Dimensions

Wave/Twist in Tube

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DESIG	#	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHEC	KED	APPROVED	DRAWING NO.	REV. A
	#	1	D3166 SHEE	Γ 1 OF 1
DATE			TITLE	SCALE
 02.0	07.10		BASKET HOOP	NTS
Α	J	02.07.10	NEW ISSUE	
Aı	delli	04.04.08	38+1-1 has 36.0	



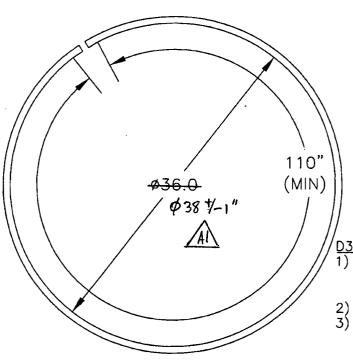
10.6 (REF, NEED 8.0 MIN)

D3166-1 BASKET HOOP

1) MATERIAL: AISI 304/316 SS SQUARE TUBING, 0.75" x 0.75" x 0.063 WALL, 60.00" LONG (REF DART SPEC. M304TS0.750W.063)

2) FINISH: NONE

3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



D3166-3 BASKET HOOP

- 1) MATERIAL: AISI 304/316 SS SQUARE TUBING, 0.75" x 0.75" x 0.063 WALL, 120.00" LONG (REF DART SPEC. M304TS0.750W.063)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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NCR:	Yes	/	No

											DQA:	Date:	Q <sub>R</sub>
NCR:	Yes	/ No				WORK ORDER NON-C	O	<b>VFORI</b>	MANCE / UPDATE		·		3
											QA Closed:	Date:	
Vork Ord	or.					DISPOSITION		:	AGAINST	DEF	PARTMENT	PROCESS	
vork ord	٠١٠.					Rework	i		Skid-tube Crosstube			Water Jet	Engineering
Part I	Vo.					Scrap		i i	Machining Small Fab	$\dashv$	Pro	d. Eng. Coor.	Quality
			• •			Use-as-is		i	noforming Finishing		Rec/Stor	e/Packaging	Other
NCR I	۷o.					Work Order Update			Large Fab Composite			Supplier	
			ř	<u></u>		 			<u> </u>				
Root			<u>.</u>		Des	otion of work order update	1	nitial	Action		Sign &	V: C A ·	061
Cause		Date	Step	Qty		 r Non-conformance	Ch	ief Eng	Description	$\dashv$	Date	Verification	QC Inspector
oc/Data													
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Landi	ng (	Gear				 General							
	Ť	Bending				Bend		Grain			Ovalized		Pressure/Forced
		Centre No	ot Concer	ntric to	o/s	BOM/Route		Hardwa	are		Over/Under	tolerance	Temperature/Cure
		Cracks			İ	Broken/Damaged		Inspect	ion Incomplete		Part Incorre	ct	Weld
		Crushed/0	Crimped.			 Burrs		Instruct	tions Incomplete/Unclear		Part Lost/Mi	issing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	enance		Part Moved		l
		Heat Trea	t			Countersink		Mislabe	eled		Positioned V	Vrong	*·
		Inspection	n Strip in	Tube		Cut Too Short		Misread	d	Power Loss/Surge			Other
		Ripples in	Bend		ſ	Drill Holes		Offset	·				
		Torque W	aves in E	Extrusio	n	Drawing		Out of Calibration					
	Turning Sequence					Finish	Out of Sequence						

Outside Dimensions

Wave/Twist in Tube

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DRAWING	NO.	TITLE		REVA1	DART AERO	SPACE LTD	D.E.O. NO.	SHEET NO.	SCALE
D3166		BASKET H	IOOP		ENGINEER			1 OF 1	NTS
DRAWN	AJS	· · · · · · · · · · · · · · · · · · ·	CHECKED	<b>S</b>	MFG. APPR.	(	APPROVED AND	DE APPR	
DATE	08.12	.11	DATE CS.	12.15	DATE OX	1,2/15	DATE (%/)2-//6	DATE 08.12.16	

1) MODIFY MATERIAL NOTE FOR D3166-1 AS SHOWN:

IS:

1) MATERIAL: AISI 304/316 SS, 3/4 X 3/4 X 0.065 WALL SQUARE TUBING, 60.00" LONG REF. DART SPEC M304TS0.750W.065

WAS:

1) MATERIAL: AISI 304/316 SS SQUARE TUBING, 0.75" x 0.75" x 0.063 WALL, 60.00" LONG (REF DART SPEC. M304TS0.750W.063)

2) MODIFY MATERIAL NOTE FOR D3166-3 AS SHOWN:

IS:

1) MATERIAL: AISI 304/316 SS, 3/4 X 3/4 X 0.065 WALL SQUARE TUBING, 120.00" LONG REF. DART SPEC M304TS0.750W.065

WAS:

1) MATERIAL: AISI 304/316 SS SQUARE TUBING, 0.75" x 0.75" x 0.063 WALL, 120.00" LONG (REF DART SPEC. M304TS0.750W.063)



REASON: SEE PAR 08-005

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								DQA:	Date:	<b>№</b> •
NCR:	Yes / No				WORK ORDER NON-	CONFOR	RMANCE / UPDATE		<del></del>	**
	-			<u></u> .	·			QA Closed:	Date:	
Work Orde	or.				DISPOSITION		AGAII	NST DEPARTMENT,	/PROCESS	
Work Orac					Rework	7	Skid-tube Crosstu	uhe	Water Jet	Engineering
Part N	No.	÷.			Scrap	1 1	Machining Small	<b>⊢</b>	d. Eng. Coor.	Quality
•			· ·		Use-as-is	The	rmoforming Finish	<b>—</b>	re/Packaging	Other
NCR N	No.	٠			Work Order Update		Large Fab Compos	- <del>-</del> -	Supplier	1
			•							
Root					iption of work order update	Initial	Action	Sign &		
Cause	Date	Step	Qty		or Non-conformance	Chief En	g Description	Date	Verification	QC Inspector
Doc/Data										
quip/Tooling	_									
Operator					,					
Material					<b>.</b>			A P		
Setup	H									
Other	$\vdash$						.72 2			
Process	H						·			
Supplier Fraining	H	1								
Jnapproved		1					13,			
snapproved	L	L		L		FAULT CAT		·	1	
Landi	ng Gear			•	General					
	Bending				Bend	Grain	I	Ovalized		Pressure/Forced
	<b>⊢</b> ⊣	Not Conce	ntric to	o/s	BOM/Route	Hardy	vare	Over/Under	tolerance	Temperature/Cure
į	Cracks	<b>⊣</b> ⊢			Broken/Damaged	Inspe	ction Incomplete	Part Incorre	ct	Weld
	Crushed	/Crimped	-		Burrs	Instru	ctions Incomplete/Unclear	Part Lost/M	issing	Wrong Stock Pulled
	Cuffs				Contamination					_

Mislabeled

Out of Calibration
Out of Sequence

Outside Dimensions

Misread

Offset

Positioned Wrong

Power Loss/Surge

Other

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

Countersink

Cut Too Short

Drill Holes

Drawing

Finish Folio